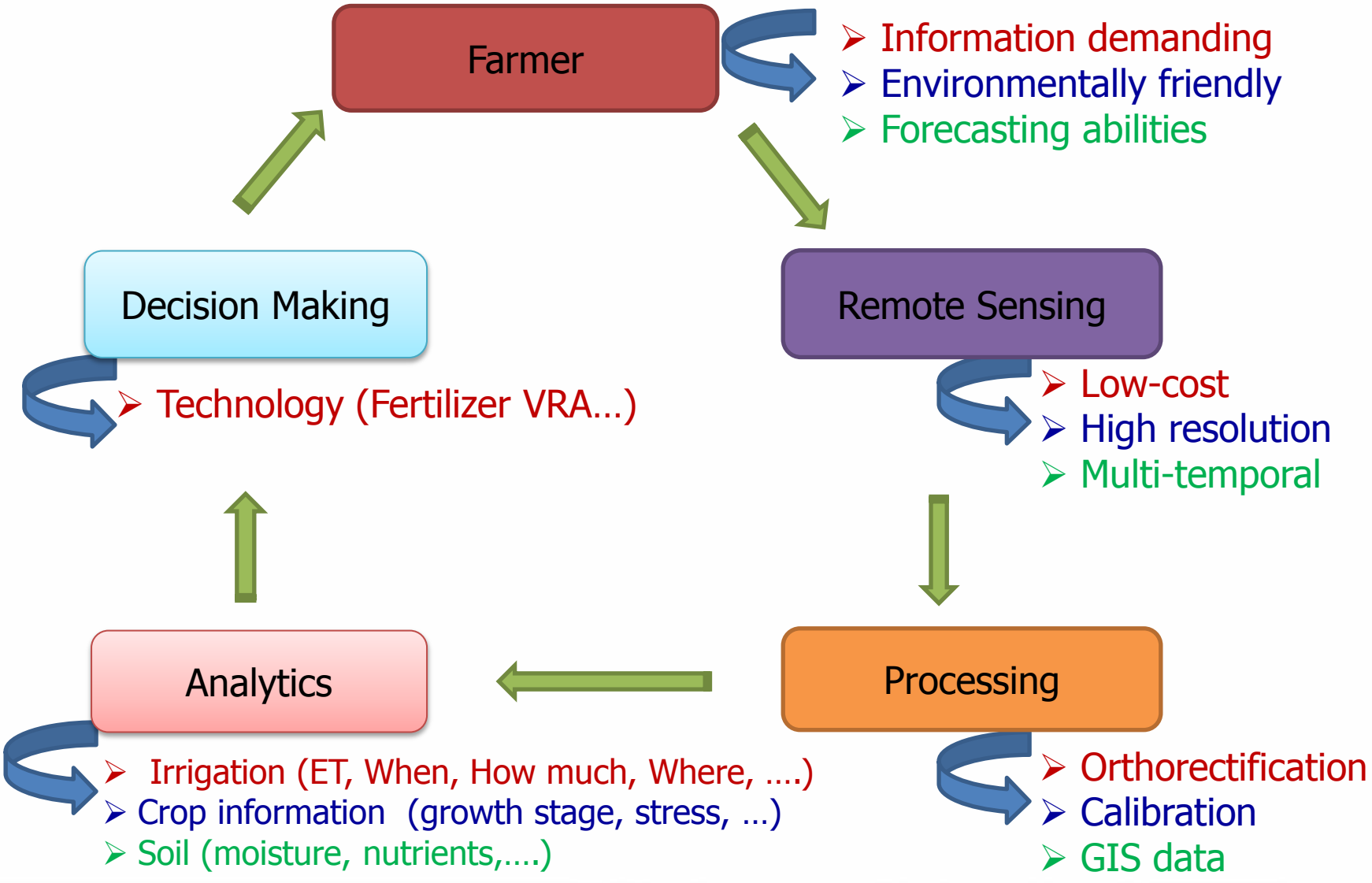
Farm Management



Not all crops are the same

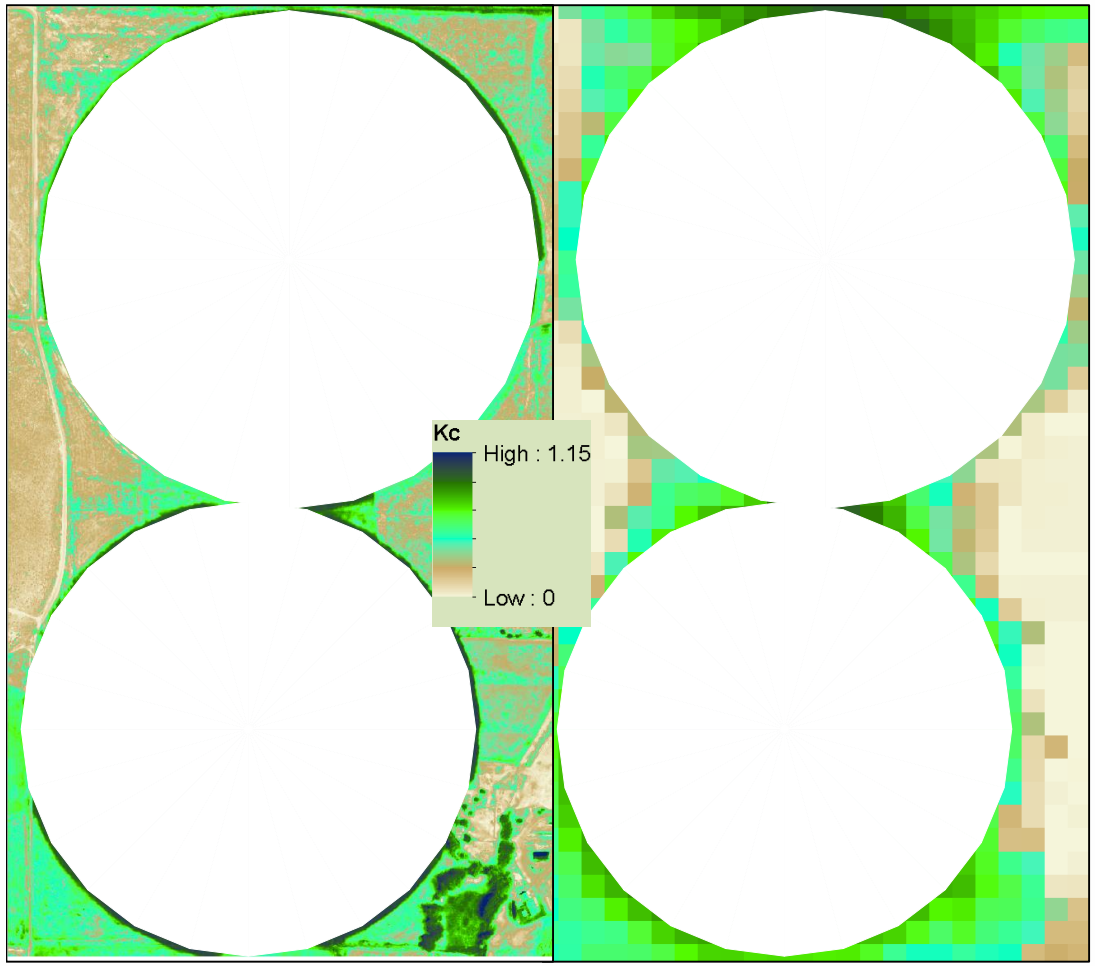
Full cover: alfalfa / grains

Location: Central Utah
Date: 2012 / 2013
Area: 245 acres
Resolution:
RGBNIR: 0.15m
Thermal: 0.60m

Row crop: vineyards

Location: Lodi, CA
Date: 2014 / 2015
Area: 210 acres
Resolution:
RGBNIR: 0.10m
Thermal: 0.60m

Irrigation is done at fine scale



AggieAir:
0.15m/pix

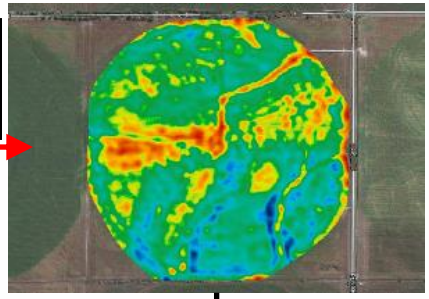
Landsat:
30m/pix

What is the right resolution for decision-making?

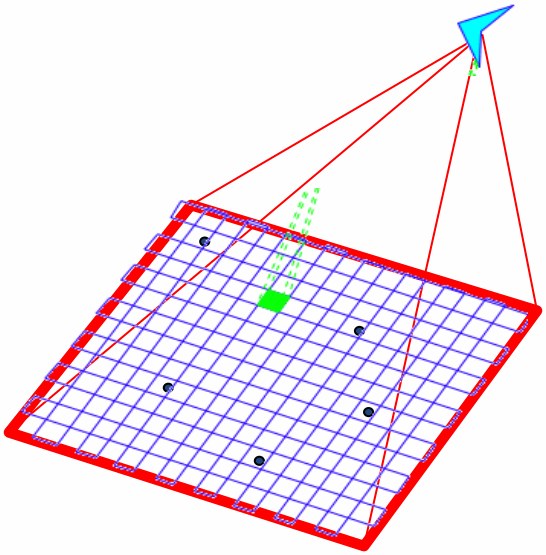
At this resolution, AggieAir imagery contains about 40,000 times as much information per unit of land area as Landsat.

Management at Farm Level

Current & Forecast Spatial ET



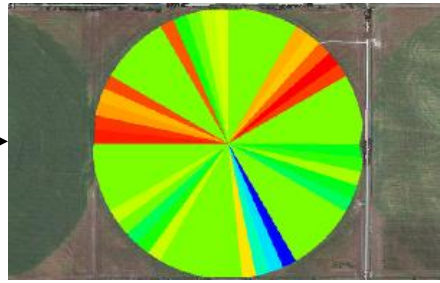
- AggieAir/Landsat



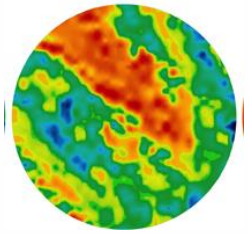
Ground information
- Soil/weather variables
- Irrigation/farm technology

Data Integration

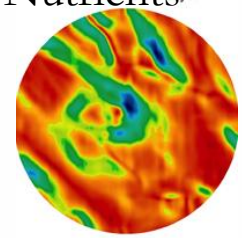
Decision Making Map



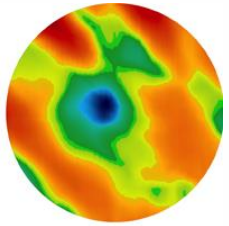
Soil Moisture



Nutrients



Yield

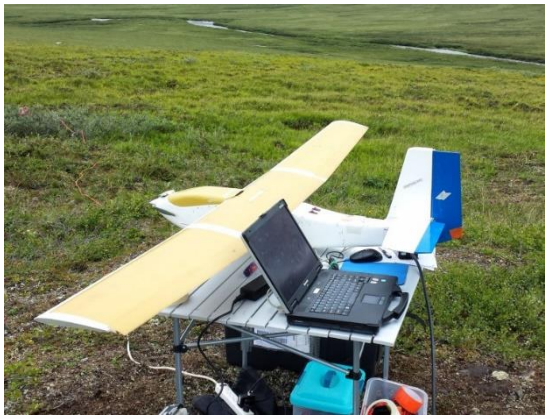


Current/ Forecast Specific Models

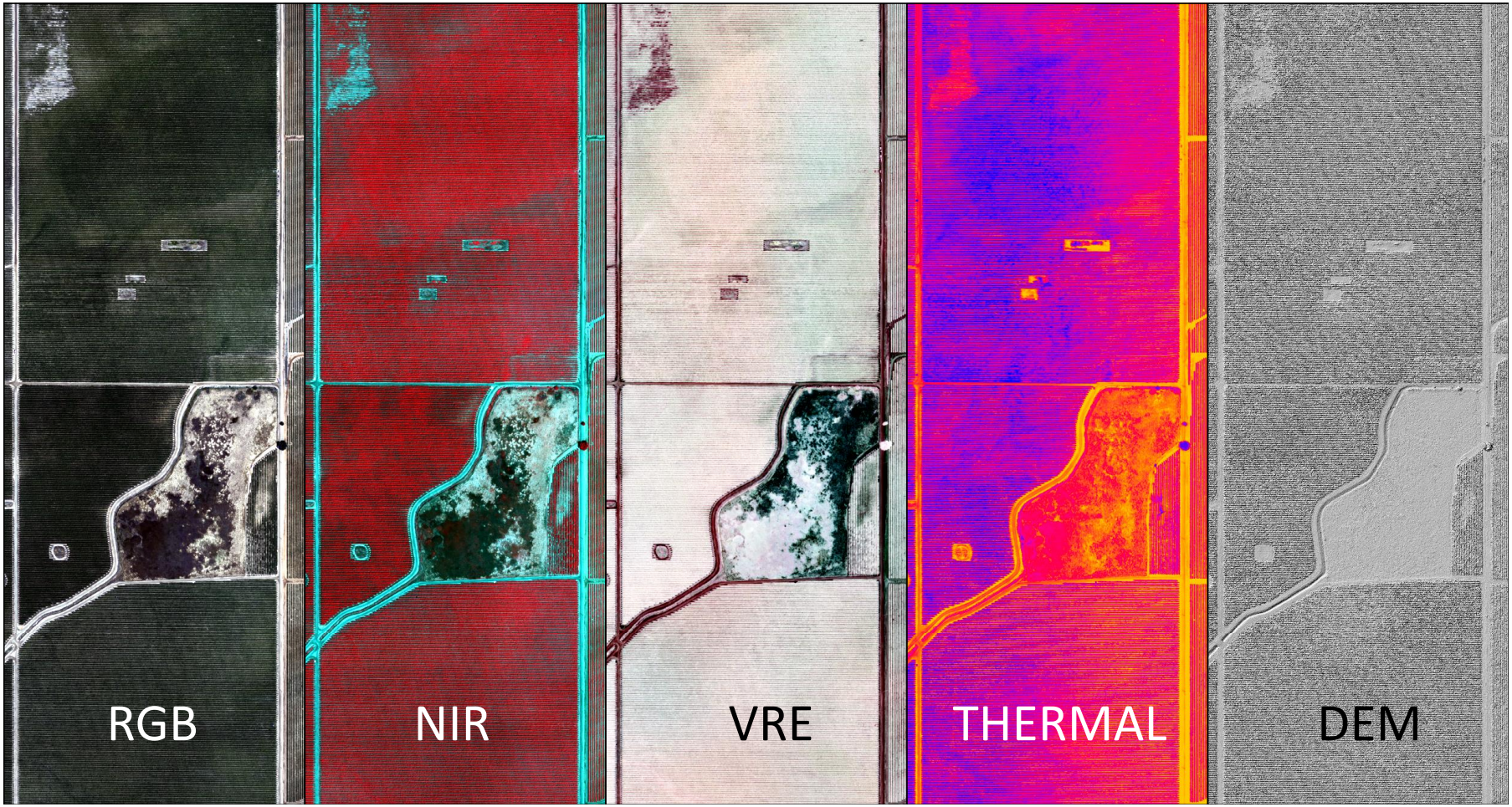
The AggieAir UAV platform:

AggieAir 2.5: Second Generation ("Minion")

Status:	Deployed
Wingspan:	9 ft
Takeoff Weight:	17 lbs
Payload Weight:	5 lbs
Flight Range:	37 miles
Flight Time:	1.25 hours



AggieAir: Scientific, sensor-flexible UAV



*Example: CA vineyards

In collaboration with ARS USDA and E&J Gallo Research Groups

Example: Landsat ET validation in vineyards